

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

Claim (13) (Currently Amended) Measuring system for measuring at least one parameter that is indicative of a state of a tire of a vehicle, comprising:

on each wheel, a detector having a parameter sensor and a detector antenna tuned to a defined frequency,

a central data processing unit coupled by individual wire links to fixed antennas, each of the fixed antennas having an associated wheel and each of the fixed antennas being arranged near its associated wheel,

the parameter sensor comprising a transponder with a capacitor for storing power, the power being transmitted to the parameter sensor of the detector from an associated fixed antenna,

at least one of the associated fixed antenna and the detector antenna being a loop that is substantially centered over an axis of the associated wheel so that a communication link with the other one of the associated fixed antenna and the detector antenna corresponding to

the associated wheel is substantially independent of an angular position of the associated wheel, and

the detector antenna being insulated from a rim of the associated wheel rim when the wheel rim is made of metal,

the associated wheel also carrying at least one of lateral, vertical and longitudinal acceleration measuring means, each of which is connected to the detector antenna.

Claim 14 (Previously presented)      System as claimed in claim 13, characterized in that the detector antenna is formed by one of a loop and a coil that is embedded in the interior of the tire.

Claim 15 (Previously presented)      System as claimed in claim 13, characterized in that the detector antenna is formed by one of a loop and a coil that is integrated into the tire.

Claim 16 (Previously presented)      System as claimed in claim 13, characterized in that the parameter sensor and the detector antenna of the detector are fixed on an annular support for running flat carried by the wheel rim.

Claim 17 (Previously presented) System as claimed in claim 13 characterized in that the associated fixed antenna is formed by one of a loop and coil that is centered over the axis of the wheel and is carried by a part of a wheel suspension that is integral with the associated wheel.

Claim 18 (Previously presented) System as claimed in claim 13 characterized in that the detector antenna and the parameter sensor of the detector are fixed to the interior surface of the tire.

Claim 19 (Previously presented) System as claimed in claim 13 characterized in that the detector antenna and the parameter sensor of the detector are embedded in the interior of the tire.

Claim 20 (Previously presented) System as claimed in claim 13 characterized in that an interior zone of the tire is directly molded over the detector antenna and the parameter sensor of the detector.

Claim 21 (Currently amended) System as claimed in claim 13 characterized in that the parameter sensor comprises a memory in which identification information for

identifying at least one of the tire, the wheel, and an annular support is stored during manufacture.

Claim 22 (Previously presented) System as claimed in claim 13 characterized in that the detector antenna is in the form of one of a loop and a coil, the detector antenna being followed by a tuning circuit having an inductor and a capacitor, a rectifier and a circuit with at least one power storage capacitor, as well as a status device, which receives output signals of the parameter sensor and supplies a modulating signal to an impedance modulation circuit of the detector antenna.

Claim 23 (Currently amended) System as claimed in claim 13 characterized in that the parameter sensor and the detector antenna are fixed to ~~a~~ the wheel rim, the wheel rim being made of one of a non-conductive material and a weakly conductive material.

Claim 24 (Currently amended) System as claimed in claim 13 characterized in that the parameter sensor and the detector antenna are integrated in ~~a~~ the wheel rim, the wheel rim being made of one of a non-conductive material and a weakly conductive material.

Claim 25 (Cancelled)

Claim 26 (Previously presented)      System as claimed in claims 13 characterized in that the central data processing unit is configured successively to poll several parameter sensors carried by the associated wheel.

Claim 27-34 (Cancelled)

Claim 35 (New) Measuring system for measuring at least one parameter that is indicative of a state of a tire mounted on a wheel of a vehicle, comprising:

a detector having a parameter sensor and a detector antenna tuned to a defined frequency, the detector being mounted to a rim of the wheel and the detector antenna extending circumferentially around the wheel rim and contacting the wheel rim, the parameter sensor comprising a transponder for transmitting signals indicative of the sensed parameter via the detector antenna;

a central data processing unit mounted on the vehicle for receiving the transmitted signals and for, in response to receiving the transmitted signals, providing indications of the sensed parameter; and

a fixed antenna coupled by a wire link to the central data processing unit, the fixed antenna being arranged near the wheel,

power for operating the detector being transferred from the fixed antenna to the parameter sensor through the detector antenna, the parameter sensor having a capacitor for storing power received from the fixed antenna until use,

the wheel rim being made of one of a non-conductive material and a weakly conductive material.

Claim 36 (New) System as claimed in claim 35 wherein the fixed antenna is formed by one of a loop and coil that is centered over the axis of the wheel and is carried by a part of a wheel suspension that is associated with the wheel.

Claim 37 (New) System as claimed in claim 35 wherein the parameter sensor comprises a memory in which identification information of the wheel is stored.

Claim 38 (New) System as claimed in claim 35 wherein the parameter sensor and the detector antenna are fixed to the wheel rim.

Claim 39 (New) System as claimed in claim 35 wherein the parameter sensor and the detector antenna are integrated into the wheel rim.

Claim 40 (New) System as claimed in claim 35 wherein the wheel is made of plastic.

Claim 41 (New) Measuring system for measuring pressure within a tire mounted on a wheel of a vehicle, comprising:

an annular support mounted on the wheel within the tire for enabling operation of the wheel when the tire is flat;

a detector having a parameter sensor and a detector antenna tuned to a defined frequency, the detector being secured to the annular support in a location spaced away from the wheel, the parameter sensor sensing air pressure within the tire and a transponder of the detector transmitting pressure signals having an air pressure value portion that indicates the sensed air pressure within the tire; and

a central data processing unit mounted on the vehicle and coupled to a fixed antenna for receiving the transmitted pressure signals and for providing indications of the sensed air pressure.

Claim 42 (New) System as claimed in claim 41 wherein the detector is configured to sense air pressure within the tire and transmit pressure signals when the tire is inflated away from the annular support for enabling operation when the tire is flat.

Claim 43 (New) System as claimed in claim 41 wherein the detector is embedded in the annular support.

Claim 44 (New) System as claimed in claim 41 wherein the annular support includes a recess located in a side surface of the annular support, the detector being secured in the recess of the annular support.

Claim 45 (New) System as claimed in claim 41 wherein the fixed antenna is associated with the wheel and is arranged on the vehicle near the wheel, power for operating the detector being transferred from the fixed antenna to the parameter sensor through the detector antenna, the parameter sensor having a capacitor for storing power received from the fixed antenna until use.



Claim 46 (New) System as claimed in claim 45 wherein the wheel is formed from metal and the annular support insulates the detector antenna from the wheel.

Claim 47 (New) System as claimed in claim 45 wherein the detector antenna is formed by one of a loop and a coil.

Claim 48 (New) System as claimed in claim 45 wherein the associated fixed antenna is formed by one of a loop and coil that is centered over the axis of the wheel and is carried by a part of a wheel suspension that is integral with the wheel.